DOCUMENT RESUME

ED 280 474 IR 051 833

TITLE IFLA General Conference, 1986. Bibliographic Control Division. Section: Classification and Indexing. Papers.

INSTITUTION International Federation of Library Associations and Institutions, The Hague (Netherlands).

PUB DATE Aug 86

NOTE 59p.; Papers presented at the International Federation of Library Associations (IFLA) General Conference (52nd, Tokyo, Japan, August 24-30, 1986).

PUB TYPE Speeches/Conference Papers (150)

EDRS PRICE MF01/PC03 Plus Postage.

DESCRIPTORS *Cataloging; *Classification; Developed Nations; Developing Nations; Foreign Countries; Global Approach; *Indexing; International Organizations; Library Associations; Machine Readable Cataloging; National Programs; *Online Catalogs

IDENTIFIERS China; Japan; Universal Decimal Classification

ABSTRACT

Papers on classification and indexing presented at the 1986 International Federation of Library Associations (IFLA) conference include: (1) "Profile on Chinese Cataloguing and Subject Cataloguing" (Yan Lizhong, China); (2) "The Trend of Classification in Japan" (Hiroshi Ishiyama, Japan); (3) "Classification in Online Systems--Research and Progress" (Nancy J. Williamson, Canada); (4) "New State Standard of the USSR: 'Systematization of Documents--General Requirements'" (E. R. Sukiasjan, USSR); and (5) "UDC (Universal Decimal Classification)--BS 1000 International Medium Edition in Book and Machine-Readable Form" (Tor Henriksen, Norway). (KM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED280474

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

IFLA

General Conference

Bibliographic Control Division

Section: Classification and Indexing

Tokyo, Japan

August 1986

IR051833

BEST COPY AVAILABLE

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
A.L. Van Wesemael

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

IFLA GENERAL CONFERENCE, TOKYO
1986
Division: Bibliographic Control
Section: Classification and Indexing

28-CLAS-1-E

Profile on Chinese cataloguing and subject cataloguing

by

Yan Lizhong
Deputy Director, Library of Academia Sinica
In collabration with
Bai Guoyin and Li Bing

K E Y W O R D (S):

Cataloguing
Classification
Chinese libraries

For internal use only:
To be brought to meeting no:
44

Remarks:
to be presented orally ☒
for distribution only ☐

0405

PROFILE ON CHINESE CATALOGUING AND SUBJECT CATALOGUING

The catalogues in China are faced with the situation of constancies and changes. Nearly all libraries in China provide convenient access to materials by using four kinds of catalogues: Classified , title, author and subject, while, the classified catalogue is the main access, the majority of libraries use only classified, title, and some of them use author catalogue for Chinese materials. The subject catalogue is provided only in a few of research libraries.

The following cataloguing rules were used for cataloguing Chinese materials from 1949 up to 1970s:

Cataloguing Rules for Chinese Books,edited by the late Prof. Liu Kuojun in 1942, Reprinted in 1950s.

Rules for Cataloguing Cards of Chinese Materials, edited by Centralized Cataloguing Division of Chinese Books, published in 1963.

Cataloguing Rules for Chinese Materials, edited by Peking Library, published in 1974.

In the end of seventies, The China National Tachnical Committee for Standardization of Documentation (CNTCSD) was established under the direction of China Assiciation for Standardization(CAS). The CNTCSD is formed by professional personnels coming from libraries, information institutes, publishing houses and archives. The main function of CNTCSD is to develop China national standards in the area of library and information services. Up to now, nearly 20 standards have been developed. In relation to cataloguing ,

there are 8 titles:

--- General Bibliographical Description (GB 3792.1-83)
"GB" is a symbol of publication of Chinese national standard.
This standard is a very close approximation to ISBD(G)

--- Bibliographical Description for Monographes (GB 3792.2-85)
This standard is a very close approximation to ISBD(M), but it has a chapter of "Rules for heading" as its appendix.

--- Bibliographical Description for Serials (GB 3792.3-85)
This standard is similar to ISBD(S)

--- Bibliographic Description for Non-book Materials (GB 3792.4-85)
This standard is similar to ISBD(NBM)

--- Descriptive Rules for Entries of Retrieval Periodicals (GB 3793-85)
This standard is used for compiling descriptive entries in abstracting and indexing services. The areas and its sequence as well as the punctuation of ISBDs are used in this standard.

--- Transliterating Rules of Chinese Phonetic Alphabet on Titles for Books and Periodicals in Chinese (GB3259-82)
In cataloguing of Chinese materials, phonetic alpabets are needed with the title characters. This standard is the guide for Chinese phonetic alphabet (Pin Yin)

--- Guidelines for Determining the Subject and Subject Indexing (GB 3860-83)
This standard is developed based on ISO/DIS 5963

--- Format for Bibliographic Information Interchange on Magnetic Tape (GB 2901-82)

This standard is developed based on ISO 2709, ISO 646, ISO/R1001, ISO 3788 and some related Chinese national standards.

In addition, two standards,namely Bibliographical Description for Printed Musics and Bibliographical Description for old Chinese Books are now under developing.

Pursuing the above metioned standards, The Centralized Cataloguing Division of the China National Library has been editing and distributing cataloguing cards for the community of Chinese libraries since 1985.

There are two samples:

shì jiè jīng jì gài lùn
世界经济概论 下册/钱俊瑞主编.—北京：人民出版社，1985.2
244页；大32开.—(大学世界经济丛书)
1.55元

Ⅰ.世… Ⅱ.钱… Ⅲ.世界经济—概论
Ⅳ.F11 28.1 F11
1.14

〔18〕
4001.512 86—00307

3(9) 6

0408

yǒu sān gè jié wěi de gù shì
有三个结尾的故事/(意)罗大里(Rodari,G.)著;祝本雄译.—北京:世界知识出版社,1985.4

136页:图;32开

书名原文:Tante storie per giocare

0.60元

本书讲述了19篇童话。里面有魔鼓、魔笛、魔指环,也有宇宙飞船和小汽车、电视机的童话故事。作者并为每篇童话设计了三个不同的结尾供读者挑选,以此来进行美与丑、善与恶的教育。

Ⅰ.有…Ⅱ.①罗…②祝…Ⅲ.①儿童文学—童话—意大利—现代 ②童话—儿童文学—意大利—现代

Ⅳ.I546.88 47.47187 I546.8 社84-121-24〔32〕
1.16 7003·121 86—00460

In the meantime, the cataloguing card for serials in accordance with GB 3792.3-85 has been edited and distributed to the community of Chinese libraries by Shanghai Library

rén mín bǎo jiàn
人民保健/中华医学会总会.—V.1,no.1(1959,1)～v.2,no.7(1960,7).—北京:人民卫生出版社,1959～60.

2v.;26cm.

月刊.—本刊由:《中华医学杂志》与:《医学史与保健组织》合并而成.—1960年12月起分出:《中华医学杂志》.—1980年起分出:《中华医史杂志》.

ISSN

〔2-65〕〔2-588〕
R 61 1985—7—448

The specialities of Chinese cataloguing can be sumed up as follows:

1. The concept of main entry in Chinese cataloguing is different from that of the Western World, for the alphabetical catalogue in China is separated into title, author, etc., and each file has its

own main entry. Cards provided by Centralized Cataloguing Agency can be used as main entry in respective file.

2. Classified catalogue is the most important and heavily used access; Title is the first area of descriptive sequence; With attention to a brief note for each materials described which forms the last area of description. All these are the historical tradition of Chinese cataloguing.

3. Hence the classified catalogue is important, the subject catalogue is of little significance in Chinese cataloguing. And the other reason for it is the lack of adequate Subject Headings for the requirement of libraries.

Chinese classification for materials has existed for a very long time. Dating back to 2000 years, there appeared a systematical chinese classification "QI LUE" compiled by Liu Xiang and Liu Xin in the Han dynasty, based on the material collection system of that time. After Tang and Song dynasties, the classification in China formed general pattern: Four Section Classification based on Confucian classics, history, philosophy and belles-letters. By the time to compile Ssu Ku Chuan Shu in the Qing dynasty(1773 AD), this Four Section Classification was formally comfirmed . The well known Ssu Ku Classification is divided into the Confucian classic chapter, the history chapter, the philosophy chapter and the belles-letters chapter. The Confucian classic chapter has 10 sections, history chapter 15 sections, philosophy 14 and belles-letters 5 , the total catagories are 44 . Under every catagory. , are subcatagories, the subcatagories are 69 in all.

In 1940, namely the year of Opium War, China came to the stage of modernization. Tremedous changes had taken place in the fuderal society which had lasted for two thousand years. New science and technology were disseminated to China. There exprienced a greater development in Chinese academic society. Obviously, the Four Section Classification no longer fitted the books in the modern time, therefore, a set of new classifications occured. These classification were generally influenced by Dewey's Decimal Classification . The four well known classifications are:

--- Book Classification in 1922 by Du Dingyou

--- Uniform Classification For Chinese and Foreign Works in 1928 by Wang Yunwu

--- Chinese Book Classification in 1927 by Liou Goujun

--- Chinese Decimal Classification and Relative Index in 1934 by Pi Gaopin

Those classifications shook off the Four Section Classification used for centries in the fuderal society, brought about a new classification system and found a new way to unify classification for the new books and the classical materials. On numbering system , there was also certain creation and breakthrough. However, the quality of the classifications would have been higher if they had been compiled with the help of collective other than by individual personnel.

Since 1949, China have been paying a great attention to the task of compiling classifications. As early as 1950, many experts gethered to discuss the problems on how to compile new classification and put forward three principles: 1. To encourage collective compiling

so as to gain wisdoms and experiences from various schools; 2. To compile the classification in accordance with the Marxist and Leninist principles and get rid of the conservative classification system; 3.To compile a nation-wide and up-to-date classification for the whole community of libraries,meantime,to encourage every unit to study and compile new classifications . These principles are the guidelines for the compiling of classification during the 30 years since 1949,This work has achieved great successes since then. According to the statistics, we have compiled about 30 titles of classification. But at present, three are most popular and well known. They are:

1. China People's University Library Classification
Zhang Zao and Cheng Deqing were the editors-in-chief. The classification was compiled by the collective of the Library and published by the Press of the University. The first draft was finished in Oct.1952 and was first published in 1953 ; The second edition (first draft) in 1954 ; The supplement to this edition was in 1955 ; The third edition in 1957; The forth in 1962 and the fifth in 1982. This classification separateds the materials into four parts and arranges them to 17 catagories.

2. The Classification of the Library of Academia Sinica
It was compiled by the Library of Academia Sinica, the draft work for nature science was completed in 1957 , the social scinece section was finished in 1958 . It was formally published in 1958 by Science Press . From Dec. 1958, the work on its index was going on , this section was published in 1959 . The revision for second edition began in 1970 , this edition was published

in 1979 , the index for the second edition was published in 1982. This classification has five parts and 25 subcatagories.

The classification of the Library of Academia Sinica is suitable to special libraries, it accords with the scientific system, and at the same time, lays perticular emphasis on nature sciences;it takes allowances for the disintigration,overlapping and synthetic tenderncy certain science is developing; it is useful for the materials both in Chinese and in foreign languages; what is more it fits the book classification for modern time as well as for the ancient. Therefore, the come out of this book become an important event in the history of classification in China. Its system,principles and nature science section lays a solid fundation for the compiling of the other classification in the future.

3. Classification of Chinese Libraries

The compiling of this classification has taken a long time. It is a very complicated as well as difficult task . As early as 1957, the Ministry of Culture managed to compile Classification of Books for Medium and Small Sized Libraries (draft) in order to solve the classification problem in these libraries. In 1959 the Ministry of Culture took the task to compile the Classification of Books for Large Libraries based on the former reference for medium and small size . The work lasted many years until 1979, The Compiling Committee was established to take charge of the revision and management work. In 1980, this book was enlarged to three different editions, namely,1. original edition; 2.second level edition and 3. concise edition. The indexes for the

three editions were published in 1984, it has five parts and 22 catagories.

This classification was the fruit of a long and consuming work, therefore it has rich content and a integrated system , about 90% libraries and information institutes in China use it.

37 years have passed since the funding of People's Republic of China. Our community of libraries has been gradually following the integrated and standard road. At present, most libraries and information centres use the three Classifications, however the three classifications have their disadvantages, for example, the systems are not reasonable enough; the patterns mainly follow the hierachical system; the numbers are not well-distributed; the revision work for each edition is often delayed and the lack of foreign translation and relevant indexes is another problem. So we need further study to increase our professional abilities for the classification compiling work, and we should revise each edition regularly and timely so as to improve our classification quality.

IFLA GENERAL CONFERENCE, TOKYO, 1986
Division: Bibliographic Control
Section: Classification and Indexing

108 - CLAS-2-E

The Trend of Classification in Japan

by

Hiroshi ISHIYAMA
Director, Processing Coordinating Office,
Acquisition Department,
National Diet Library,
Tokyo, Japan

KEYWORDS:
Classification - Books
Nippon Decimal Classification
Catalogues, Subject

For internal use only:
To be brought to meeting no:
074
Remarks:
to be presented orally ☑
for distribution only ☐

3967

IFLA GENERAL CONFERENCE, TOKYO, 1986
Division: Bibliographic Control
Section: Classification and Indexing

The Trend of Classification in Japan

by

Hiroshi ISHIYAMA
Director, Processing Coordinating Office,
Acquisition Department,
National Diet Library,
Tokyo, Japan

For internal use only:
To be brought to meeting no:

Remarks:
to be presented orally
for distribution only

3968

The Trend of Classification in Japan

Hiroshi Ishiyama
National Diet Library

1. The Japanese Language and the Classification System

In our country, a bibliography is arranged mainly by a systematic classified catalogue and there are few systems arranged in the order of the Japanese syllabary of the subject headings in the natural language. This is because of the difference of characters of the Japanese and the western languages.

In Europe, a word consists of alphabets which are the phonetic symbol, and it can be alphabetized easily. But, the Japanese letters include Kanji(Chinese characters) which are hierographs, so, they cannot be limitted by Kanji.

It is only one hundred years since dictionaries and encyclopaedias which have been arranged in the order of the Japanese syllabary. Before that, all of them, except some handy dictionaries, were edited by the classified subject arrangement.

After the Meiji Restoration (1868), the library science in western style had been introduced. For a trial, the subject catalogues were compiled by libraries in Japan, but only limitted libraries operated in practice.

After the World War II, by the influence of the United States of America an alphabetical subject catalogue and a dictionary catalogue became popular temporally. But, about ten years after, they decreased in number. The reason was that they took much time in making a subject catalogue than classifying the books, besides, there were few libraries where were enough librarians in order to make subject catalogues in additional to the classifying work that was necessary to the shelving the books. Recently, in the age of information retrieval by the computers, the study of referring a unit of vocaburary of Japanese language, has been promoted. So, in future, the subject catalogues will increase in number.

2. The Development of the Classified Catalogues in Japan

2.1 The Influence of the Classification System of the Library of the Chinese Court

In our country the oldest book catalogue is "Nipponkoku Kenzaisho Mokuroku"(The Catalogue of Books in Japan) compiled about 890 A.D. It includes mainly Chinese classics and some Japanese. It collects 16790 volumes of 1579 titles classified into 40 divisions. Its classification was based on the system of "Zuisho Keiseki-shi" compiled in 656 in the age of ~~Sui~~ Tang (China).

"Zuisho Keiseki-shi", the model of "Nipponkoku Kenzaisho Mokuroku" consists of following four divisions:

Sutra --- works of Confucious (Kŭng-tzu) and his pupils (10 Subdivisions)

History --- history, topography, and political information (13 Subdivisions)

Masters --- thinkers' theories except Confucious, including books on strategy, politics, medicine, astronomy, and mathematics (14 Subdivisions)

Collection --- literary work, series (4 Subdivisions)

Buddhism and Taoism were included in Appendix.

"Nipponkoku Kenzaisho Mokuroku" contains 40 divisions: 1-10 -- sutras, 11-23 -- history, 24-37 -- thinkers' works, 38-40 -- collections. Moreover, the 25th division was for the works of Taoists, and did not include books on Buddhism. At that time the learned dealt with Buddhism specially, but the general people admitted Taoism equally.

2.2 The Classification System of the Library of Japanese Court

The next book that I must mention, is "Honcho Shoseki Mokuroku" (A General Catalogue of Japanese Books) compiled in 1287. This book is the most oldest catalogue about Japanese books. This catalogue is divided into 20 divisions and contains 494 titles. The original order of the divisions is as follows:

Shintoism

Imperial History

Politics
Genealogy
Geography
Encyclopaedia
Dictionary
Poems by Chinese Style
Miscellaneous

In this classification, the ten divisions have decided at first, then the divisions of literary works, medicine, fortune-telling, biographies, etc. were added later one by one. It is conjectured that this classification system has come from the arrangement of books of the Imperial Court. Though there was such a defect in this catalogue, the revised systems of this classification have been adopted in many catalogues until modern ages. For example, the catalogue of the section of Japanese books in the Library of the Tokugawa Shognate was much completed in detail. The order of the divisions was kept as mentioned above: the first was Shintoism, the second was the imperial history.

2.3 The Classification System of Foreign Books in the "Bansho Shirabesho" of Edo Tokugawa Shognate

The first classification system was that of collection of about five hundred books of the "Bansho Shirabesho"(The Research Institute for the Study of Western Books, Tokugawa Government) in Edo(now, Tokyo). The books were classified following 16 divisions:

1. Dictionary of Dutch
2. Dictionary of parallel versions
3. Grammar of Dutch, French, English
4. Natural Philosophy (including geology, mineralogy)
5. Chemistry (including applied chemistry)
6. Mathematics
7. Astronomy and almanacs
8. Geography (including journals of travels)
9. History and Biography
10. Navigation (including seamen's almanacs)

11. Politics (including legal materials, treaties)
12. The Art of War (text-books of military schools, etc.)
13. Archtecture (fortress and foundry of guns)
14. Mechanical Instruments (steam engine and telegraph)
15. Medicine
16. Miscellaneous (encyclopaedia, patent registers, etc.)

As is generally known since the 17th century Japan had been isolated from foreign countries, except Holland. At the end of the 18th century European ships came to Japan, and they urged her to open the country to the world. In 1854 the Tokugawa Shognate decided to open the country, and realized the necessity of researching the matters and affairs of the overseas. In 1857 "Bansho Shirabe-sho" was founded. The classifying list showed the situation of the source of informations in the beginning of the systematic study of western civilization.

3. The Classification System of the Modern Japanese Library

After the Meiji Restoration (1868), Japan had hurriedly made a great effort to intake the western civilization. Many western books were imported. Those who had read these books were different people who had read Japanese books. So, naturally in the library the western and the Japanese books had shelved separately. This way of thinking have continued until present. Of course, the circumstances are different from at that time, today, the important foreign books in every kind are rapidly translated into Japanese, so soon we can read them in Japanese.

The present territory of Japanese books are so wider and deeper than that of Edo era, as not to be compared with the two periods.

3.1 The Classified Catalogues of the National Library

The first modern library in Japan was the national library established in 1872 named "Shojaku-kan" (This library was absorbed by the National Diet Library after the World War II).

In "Shojaku-kan" the collected books were classified by three

languages: Japanese, Chinese, and other foreign languages. They were shelved separate places. They were shelved not by the subject, but by the size of a book.

In 1876 the first book from catalogue was published. The collection was divided into three: Japanese, Chinese, and foreign books, and each division was compiled by the style of classified catalogue.

According to the system of T. W. Harris' Classification which gave suggestions to M. Dewey's Decimal Classification, were divided into six classes, and furthermore, they were classified into fifty subsections.

The Classified Catalogue in 1885 was classified into eight divisions. It can be said that this catalogue was influenced by E. Edwards' Classification.

3.2 The Introduction of Dewey's Decimal Classification

In Japan Dewey's Decimal Classification was, for the first time, introduced by the first text-book on library economy published in 1892. But there is a few libraries where librarians have used it just as it is. Hokkaido University, of which the first principal was W. S. Clark graduated from Amharst College from where Dewey had graduated, and the St. Paul University established by the American Episcopal Church have been using this classification. Besides above two universities, a few of missionary schools, and companies founded by foreign capitals, use this classification. After the World War II, the National Diet Library adopted D.D.C. for foreign books, following Dr. Robert B. Downs' advice. There are 55 university libraries, that is 7% of all, using D.D.C. for foreign books. About special libraries, there are twenty libraries using D.D.C. for foreign books. It is equivalent to 1-3% of all special libraries.

3.3 The Japan-like Decimal Classifications

In 1906, for the first time, the Kyoto Prefectural Library adopted a classification schedule by decimal system. The reason was the chief librarian, Kichiro Yuasa (1858 -1943) of those days went

abroad to study at the Chicago University where he had been taught by one of Dewey's pupils. Comparing this classification with Dewey's, the section of social science was divided into two parts: Class 3 Society, and Class 4 States, and sections of linguistics and literature were put into one, Class 8. Others were almost the same. However, it lacked the mnemonics system.

In 1909 at Yamaguchi Prefectural Library, the eight sections of the Classified Catalogue by the National Library, had been applied to the decimal system accordiag to the advice of the chief librarian, Tomosaburo Sano(1864 - 1920). At the Prefectural Libraries' Conference held in 1919, this schema was decided as the standard classification system, however, a few years later there appeared libraries one by one, where the schema was changed by the reason of "Not reasonable". Several years later, the function of the schema had not act as the standard one.

3.4 The Introduction of U.D.C.

Among special libraries 264 libraries use Universal Decimal Classification (U.D.C.), which is equivalent to 14% of all. In 1930's this U.D.C. has spread among libraries of the mining industry, electrics, machinery, and other manufacturing industries.

4. Nippon Decimal Classification (NDC)

In Japan the most popularized classification system is the Nippon Decimal Classification (NDC). NDC was originated by Kiyoshi Mori in 1928. He based NDC on the system of C. A. Cutter's Expansive Classification. The notation applied to Dewey's D. C..

The Main Classes of EC and NDC

	E C	N D C
General	A	0
Philosophy and Religion	B - D	1
History and Geography	E - G	2

Social Sciences	H - K	3
Science and Medicine	L - Q	4
Useful Arts	R - V	5 - 6
Recreative Arts and Fine Arts	V - W	7
Language	X	8
Literature	Y	9

As NDC was originated about a half century later than the Dewey's technology was well situated. For example, electric engineering, which appears firstly in 621.3(needed 4 firgures) in DC, in NDC appears 54(needed 2 figures). Also NDC was aimed at the common usage of both Japanese and foreign books.

4.1 The Popularization of NDC

This classification was originated in the purpose of a standard classification. There had been a few newly established libraries using this classification. Until the end of the World War II this classification had not been regarded as the standard.

After the War, NDC was introduced in the text-book of "The Guidebook of School Libraries" published by the Ministry of Education. As a matter of course NDC became popular among the school libraries. In 1948 NDC was adopted by the newly established National Diet Library for Japanese and Chinese books. After that public and university libraries of all over the country began to adopt NDC. As the result of this, NDC has been recognized as the Japanese standard classification.

Today, 99% of public libraries, 75% of university libraries, 99% of junior college and special high school libraries, and 98% of school libraries use NDC. There are very few among the newly established libraries using other classification. Even 52% of special libraries adopt NDC for Japanese books.

NDC has been adopted by the National Bibliography. As the classification of bibliographies, NDC holds an important position.

4.2 The Future of NDC

NDC has been supervised by the Classification Committee of the Japan Library Association(JLA)togather with Kiyoshi Mori, the originator. The 6th edition in 1950, the 7th in 1961, and the 8th in 1978, were published. Now the Committee is preparing for the 9th edition in 1988.

Hitherto a classification schema was produced for the purpose of the shelf classification in each library, but nowadays the computerization had gradually been pushed on. It is very important to give deep consideration to the popularization of JAPAN/MARC (The bibliographic data entry for publications in Japan compiled by the National Diet Library) and to the facilitation of referring to the national bibliographies. Therefore, without the change of the basic structure it is desirable to construct much minuter and precise classification schema.

1) In the 8th edition the Committee paid special attention with the up-to-date science and technology. In adaptation of class numbers to the change of social phenomena, had been behind time, for instance, a place for public entertainers in television, new items of sport, and the development of service industry. The reasonable locations will be needed.

2) The additional tables should be substantial, and the analysis of facets should be also easy.

3) The input of the classification tables into computers should be necessary and its database should be produced. Also the relative indices should be substantial.

The JLA Classification Committee is planning according to the above items.

5. On The Non-Decimal Classification

5.1 The Usage of NLMC or BMLC

There are several libraries using the classification tables of the National Library of Medicine of the United States (NLMC) or the Boston Medical Library (BMLC) as it is. Except these medical libraries there are few libraries using foreign non-decimal classifi-

cation tables as they are.

5.2 The National Diet Library Classification

The foreign documents on laws had not been classified precisely by the 14th edition of Dewey's Decimal Classification. So, in 1963 the National Diet Library originated own classification tables. Based on the system of the Library of Congress, documents on laws are classified at every country, then they are subclassified according to the law system of each country.

Besides the law, in other fields the non-decimal classification was accepted and in 1968 it was generally adopted. As the general principle the marks are at the first one or two alphabet letters and the numbers from 1 to 999 follow.

The system of the classification table is in the order of social science (A-F) --- human and cultural science (G-L) --- science and technology (M-S) --- general (U) and psychology is put between ~~ethology~~ anthropology and medicine in biology; linguistics and literature are put in the language of each country. Thus, this system becomes rational. This system, however, is the system for only one library, NDL, and it is adopted in the National Bibliography togather with NDC. Its influence is that only a few libraries use it partially.

5.3 The Classification Tables of the Analytical Compound Type

In Japan there is not any library using the Colon Classification (CC), but there are a few special libraries using the faceted classification.

The Library Classification Scheme(rev. ed. in 1970) of the Japan External Trade Organization (JETRO) consists tables of seven categories and it combines with the area, subject, merchandise, and kinds of materials (three kinds: for books, statistics and journals). The classification table of Orientalism of the Instut Franco-Japonaise, is also the faceted classification combined area with subjects. These kinds of attempt have been tried everywhere.

6. A New International Classification Table Towards the 21st Century: A Proposal

The above-mentioned are the outline on classification in our country. The growth of culture of our country has reflected in the classification. Comparing Britain with Japan, Sir George Sansom has said that two countries are both insular countries, but the development of culture is different from that of Britain, where is near the continent, and Japan, far from the continent. In Japan peoples are eager to absorb fresh foreign knowledges and have had a long time to assimilate them and converted to use by their own way. There have been very few to use them just as they are. This will be the specific feature of Japan as it is good or worth.

Today, we can go in 24 or 48 hours to the opposite side of the earth. We live in the age of the various informations. As one of the tools of transmitting various informations, the classification should be internationalized. Towards the 21st century an international bibliographic classification being free from the past days, will be desirable.

It is inconvenient to arrange the future informations by the outdated classification of which basic structure had not been appropriate to the up-to-date reform of science and technology or the change of society.

I propose the preparation of such objectively fair and just classification as combining with the categories of subject, area, language, time, literary form, etc. by concentrating the accumulated knowledges of the classification in the past.

IFLA GENERAL CONFERENCE, TOKYO

Division: Bibliographic Control

Section: Classification and Indexing

1986

109-CLAS-3-E

CLASSIFICATION IN ONLINE SYSTEMS: RESEARCH AND PROGRESS

by

NANCY J. WILLIAMSON

FACULTY OF LIBRARY AND INFORMATION SCIENCE
UNIVERSITY OF TORONTO

K E Y W O R D (S):

Online Catalogues
Classificaton
Library of Congress

For internal use only:

To be brought to meeting no:

141

Remarks:

to be presented orally ☒

for distribution only ☐

Introduction

Over the past several years, there has been a growing interest in the place of document classification in online retrieval systems. It is widely recognized that, as search mechanisms, classification systems and classificatory structures may have a part to play in the improvement of online retrieval. This is an issue which merits further research and exploration. The notion that information storage and retrieval systems may be most responsive to a variety of information needs, when they combine a natural language approach with systematic order,[1] is not new. It predates, by many years, the use of computers as information retrieval tools. Typical examples are numerous. Most familiar are such manual systems as the alphabetical library catalogue used in conjunction with a classified arrangement of documents, the classified catalogue with its alphabetical index(s) and, most recently, sophisticated thesauri which incorporate hierarchical display or tree-structures,[2] or which combine and integrate a thesaurus with a classification system.[3, 4]

The need for complementary methods of access, as embodied in systems such as these, does not diminish with the introduction of computers into the retrieval process. Information seekers still have two basic types of requirements - direct access to satisfy a specific information need and browsing capability to satisfy an unspecified need. The differences in retrieval systems are not in their users but in the methods by which the retrieval is accomplished and the degree of sophistication which can be brought to the search process. Retrieval capabilities of computers, such as speed in the manipulation of bibliographic

records, the ease of updating and change, and the sophisticated collocation and display of data, are all attractive features to be exploited in the design of effective document and information retrieval systems.

In the investigation of the use of classification online, an obvious field for exploration is the library catalogue - a retrieval tool with bibliographic records in machine-readable form and with classification notations from one or more of the major systems already in place. The systematic display of records can serve to enhance the browsing function of online catalogues, enabling users to scan a topic of interest more completely than is frequently possible when browsing a library's shelves. Catalogues can provide a complete picture of a document collection, whereas every document in that collection may not be on the shelves at one particular time. The possibilities are further increased when the catalogue is a classified catalogue. Also, computer-based catalogues can be designed to transcend the problems of interdisciplinarity and multidimensionality of subjects, as well as the physical scatter of documents. Indeed, the possibilities for collocation may be beyond the most extravagant dreams (and perhaps the needs) of many information seekers. Catalogue users may also benefit from a feature which permits display of portions of the classification schedules relevant to their inquiries. Such a feature may aid users by providing orientation to a subject area and to the contents of the database. Equally attractive, is the possibility for library classifiers of being able to consult and apply the schedules in

an interactive online mode, rather than having to manipulate paper volumes which are both bulky and physically cumbersome to handle.

Such an enumeration of possibilities might suggest that a millennium in library classification has now arrived. In my estimation this is only partially so. There is still much which we do not know about the effective use of classification online. Increased breadth and depth of investigation is needed to provide a cumulative body of research findings which, hopefully in time, will lead to the improved design of online catalogues and bibliographic systems, and in the broadest sense to general guidelines and standards to support the goals and objectives of universal bibliographic control.

Studies in the use of document classification in computerized systems are not new. The record of investigations goes back nearly four decades to the experimental work carried out on the Universal Decimal Classification (UDC).[5] Although these early investigations did not precipitate the sophisticated use of classification as a retrieval device in the first online catalogues, times change. In the 1980s there is a better understanding of the technology, it has become much more sophisticated, and experience has made possible new ways of adapting it for use. Karen Markey's[6] recent extensive study on the use of the Dewey Decimal Classification (DDC) in online catalogues has projected research in this area into the realities of the present. It provides evidence of substantial potential for revolutionizing catalogue design and encourages further research. Having come this far, it is important not to leave the job

unfinished. The new study briefly described here is an effort to locate one more piece of the puzzle that is research into the role which classification can and should play in online retrieval systems. Classification systems differ a great deal from one another, and while this new study centres on one system, the Library of Congress Classification (LCC), findings can be expected to contribute at least partial answers to more general questions such as: What are the features of any classification system which make it amenable to online use? How do the present, popular systems measure up to the criteria for an effective machine-useable system? Is the implementation of the existing classification systems online the direction in which we should be moving? Or, should new general classifications specifically designed for online use be developed? Breadth of vision and willingness to experiment are essential. We must not limit ourselves to putting old wine into new bottles. Quite frequently, such an approach is restrictive, ignores potential and hampers innovation, and the results are ultimately found to be somewhat less than satisfactory.

Why Base the Study on the Library of Congress Classification?

The Library of Congress Classification (LCC) has been chosen for this particular study for several reasons. Together with the Universal Decimal Classification (UDC) and the Dewey Decimal Classification (DDC), LCC is among the most widely used general classification systems in the world. As such it could be described as a "standard" system. Its development and use by a major national institution engaged in the wide distribution of

MARC records ensures its evolution and perpetuity. These factors make LCC an attractive system to large portion of the world's library community. Also, it is important to supplement and complement the results of the DDC study by breaking new research ground. Different types of classification systems need to be investigated to provide a basis for comparison. LCC differs substantially from DDC in its nature and characteristics, making it a logical choice for the next stage of research in this area.

Initiating the Study

In setting up the proposed study two important factors were immediately obvious. First of all, there are many questions, in particular questions about LCC itself, which need to be answered before a full, operational system can be mounted for testing. Secondly, the potential research area is enormous in size and some means had to be found by which it could be divided into manageable segments. To solve the first problem, it has been decided to carry out a pilot study which would have as its ultimate goal a "model retrieval system" which could then be used to design and develop systems large enough to be tested in real life situations. A pilot study such as this will permit the testing of the viability of various methods and procedures and the introduction of possible innovations as part of the design of the model. Methods, procedures and devices will be accepted, modified, altered or rejected for the model depending on their degree of success.

In response to the second problem, the pilot study has been divided into 3 phases which reflect the kinds of use which might

be made of such a system. There are three groups of potential users envisaged - classificationists (that is the editors and developers of LCC), the classifiers, and the users of public catalogues (librarians and patrons). It is clear that the needs of these three user groups are quite different, but they are not mutually exclusive. Classificationists and classifiers are primarily concerned with the classification schedules and their manipulation. They need the schedules in their entirety and they require efficient access not only to the schedules, but also to any auxiliary devices, such as tables, and to comprehensive indexes. The crux of the problem here is to find an answer to the question - What can computerization of the classification schedules do for these user groups which will make the administration of the system more effective and more efficient? In contrast, catalogue users are really only interested in the end-product - the display of bibliographic records relevant to their inquiry. Their basic requirements are to be able to locate those records with a minimum of effort, within a reasonable time period, and displayed in a sequence which they find useful.

On the surface it might seem that two separate systems would satisfy the two kinds of use - the administrative use by editors and classifiers and the information retrieval use by librarians and patrons. However if our reasoning is taken one step further, it can easily be understood that those who develop and apply the system can benefit from being able to move easily between the schedules and the bibliographic records in order to see the

schedules in relation to their application. From the opposite point of view, catalogue users may be better able to direct their searches if they can consult a display of relevant portions of the classification schedules in order to see their topics of inquiry in context, or to narrow or broaden their requests in orders to focus them more precisely. The idea of permitting the user to see the "engine which drives the train" (or the tool which structures the retrieval system) is not a new one. Thesauri are built on the premise that they are search tools as well as devices for assigning controlled vacabulary. Increasing, online databases are permitting searchers to consult a thesaurus at the terminal, and the Markey study incorporated displays such as this. The ideal system could be one which interrelates the classification schedules with the catalogue for the use of both kinds of users. However, more study is needed to determine ways in which this might best be accomplished. It is virtually certain that catalogue users do not want to view a classification schedule in its entirety. Moreover, a library will not necessarily have documents classified under every topic in the LCC system. By the same token in using the auxiliary devices the library may have created topics which are implied in the schedule but not actually present there. A fairly recent idea,[7] yet to be thought through in detail, is the concept of authority control for classification. At present, it is only possible to speculate as to what a classification authority control record would contain and what its function would be. It could be the device for maintaining and updating classification in the online catalogue where it would be the intermediate link between the

classification schedules per se and the catalogue, thus controlling the subset of the schedules which would be displayed to the catalogue user.

The Study: General Framework

Based on these concerns, the pilot study has been projected as having three phases focussing on each of the three components of the potential system - the classification schedules, an online catalogue and an authority control system.

As presently planned, Phase I, now under way, focusses on the conversion of the Library of Congress Classification schedules into machine-readable form in manner suitable for use in conjunction with an online interactive system. Among the decisions to be made are how the data is to be displayed and how they are to be accessed. A small model of specially selected schedules will be constructed and tested, and an attempt will be made to be as representative of the problems of the schedules as possible.

Phase II will centre on the design for a "model" online catalogue which incorporates classification as one of its retrieval devices. The bibliographic content of the model catalogue will be based on MARC records, selected to match the classification schedules used in the model developed in Phase I. The catalogue will have a full range of access points, permitting retrieval of records through author, title, subject headings, classification number and keywords from potentially term-rich fields of the MARC record. Keyword access will be further enhanced through terms from the classification schedules and their indexes providing for access to displays in classification

number order. Facility will be provided for catalogue users to scan bibliographic records in hierarchical order by topic and also to view relevant hierarchies from the classification schedules. This phase of the project will, in so far as possible, parallel the study done by Markey so that when a full scale catalogue is developed, there will be a basis for comparison of retrieval results.

Phase III will build on the findings of Phase I and II. It is anticipated that the research done in the first two phases will provide some insights which will aid in developing Phase III.

Library of Congress Classification and Online Retrieval

The first step in Phase I of the study was to address the question "What are the characteristics of LCC which will affect its manipulation and use in an online system?" The schedules have been assessed for the general nature of the system and one subject "computers" has been analyzed across schedules. It was immediately apparent that a number of features of LCC have implications for its computerization.

a) Machine-readable data

It is essential that the schedules be in machine-readable form. This is not presently the case with LCC, but perhaps this fact could be regarded as a mixed blessing. On the one hand, the amount of data to be converted from the printed schedules is enormous and the operation will be intensified by the coding and tagging of data which will be required to facilitate machine

manipulation of the schedules. On the other hand, had conversion taken place several years ago, decisions would have been made on the structure of the database which might have been inflexible and limiting by today's technological standards. As it is, there is freedom to experiment with methods of conversion and with alternative approaches to the display of schedules, and auxiliary tables not technologicaly viable 5 or 10 years ago. Also several years of online catalogue experience puts researchers in a better position to determine exactly what they want to achieve. In the final analysis, the cost, time and effort involved will be essential factors in decisions on whether to convert, and how it should be done, but it is also important that the results be worth the effort.

b) Enumeration

One of the most significant factors in the choice of LCC for study was the high degree of enumeration which is characteristic of the system. An assumption has been made that this is a feature very much in LCC's favour, but this still has to be demonstrated. There are at least two aspects of enumeration which raise questions as to how they might best be handled.

The greater the degree of enumeration involved the more complex the layout of the schedules and the display of topics becomes. Even a very cursory scan of selected LCC schedules makes it abundantly clear that the transfer of data from the printed page to the computer screen will require careful planning to ensure efficient use. Figure 1 is typical of the hierarchical display in many of the LCC schedules.

```
                ELECTRICAL ENGINEERING.  ELECTRONICS.  NUMBER ENGINEERING
TK                 Electronics
TK7800-8360          Applications of electronics
TK7880-8360            Computer engineering.  Computer hardware
TK7885-7895              Digital computers
TK7888.3                   Circuits
```

Figure 1

There are often many levels in the hierarchy which classifiers and other users of classification schedules must understand if they are to use the system correctly. Ways and means must be found of displaying the hierarchical relationships on the screen which will preserve the perspective of the subject area and the context of a particular topic. Problems of this kind are even more apparent in displays such as the one shown in Figure 2.

```
TK7880-8360       Computer engineering.  Computer hardware
TK7885.A1A-Z         Periodicals, societies, congresses, etc.
TK7885.A2A-Z         Dictionaries and encyclopedias
TK7885-A3A-Z         Symbols and abbreviations
```

Figure 2

The terminology of many specific topics, for example "Circuits" in Figure 1 and "Periodicals" etc. in Figure 2 become completely meaningless out of context. This feature has implications for both the display of schedules and access to them and is a problem that was recognized in the Markey[8] study with reference to the terminology of the DDC relative index.

Another factor in enumeration, which is almost the exact opposite of the one just described, is that to some extent the enumeration is "hidden". Specific instances of this are the use of the auxiliary tables and the "A-Z" instructions for

alphabetical arrangements using book numbers to create subtopics in many areas of the system. Decisions will be needed on the most effective method of handling these devices. Is this the kind of problem that might be handled through an authority control system? It is worth serious consideration.

c) LCC as a 'Collection of Systems'

By nature, the Library of Congress Classification is really a collection of special subject classifications and not a fully integrated single system. Because of this it is somewhat of a challenge to a researcher.

Although LCC has a general framework into which the several subject disciplines fit, and there are general principles and mechanisms which apply across the system, it is at this point that the interrelationships among the schedules cease. Each schedule has been developed and perpetuated separately. Revision and updating of the classification are continuous and new editions and reprints of individual schedules are published as the type and degree of change warrant it. Each schedule has its own unique auxiliary tables, and most, but not all, have detailed indexes. Moreover, by design, no general "official" index has yet been prepared by the Library of Congress because, until the K Class (Law) is complete, the LCC system is theoretically unfinished. It is true that there are some "unofficial" general indexes, but these suffer from being mergings of index entries from the individual schedules rather than being carefully developed and integrated indexes.

Absent from this classification system are the coordination,

integration and mneumonics so familiar to DDC users. While each schedule on its own reflects the content and structure of a particular discipline, there are inequalities and inconsistencies across the system.

An analysis of the terms "automatic", "automation", "computers", "data processing" and "electronic data processing" as applied in the schedules and their indexes serves to point up some of the problems. Terminology varies with the publication date of the latest edition of the schedules, cross references are inconsistent and the depth of the indexing varies. For example every topic enumerated in the schedules is not necessarily in the index. In the TK subclass, TK7888.3 is the precise classification number for "digital computers" but this term does not appear in the index. The pertinent index entries are "computer engineering" and "computer hardware" both lead to the broad grouping "TK8885-7895 without further specification. In contrast some other narrow topics are precisely indexed. This is not a new discovery by any means but it reinforces research carried out in the 1970s by Phillip Immroth[9] in which he had hoped to devise an easy method of developing a good general index to LCC.

Indeed, LCC might be described as being analogous to a centipede without centralized control of its legs. All of this has implications for the computerization of the LCC system and its application in an interactive online system.

d) The Notation

If any one characteristic of LCC could be singled out as the most important single obstacle to the interactive use of this

classification system it might be its notation. With DDC the ordering of hierarchical displays of bibliographical records and portions of the schedules is facilitated by the hierarchical nature of a notation which reflects the organization of the classes and subclasses of the system. In contrast LCC's notation is not hierarchical. The hierarchy is reflected only in the display of classes, subclasses and constituent subjects. Theoretically this is an advantage because classification ought to be viewed as the relationships among areas of knowledge and their components, not as a display of notations. Technologically the problem of the hierarchical display of LCC can be solved. However, in the initial stages at least, more human effort and greater financial outlay is likely to be involved than in the case of DDC. The challenge is to devise a method of handling this problem which will reduce the obstacles to a minimum.

These are but some of the challenges which the Library of Congress Classification presents to interactive online use. It remains to be seen how they can and should be met.

Design of the Model: Work in Progress

Against this background and analysis, work on Phase I of the model is now in progress. Sections of the LCC schedules dealing with "computers" are being used as the basis for experimentation. The choice of subject area was based on a personal interest in the subject and also on its interdisciplinary nature requiring the use of several schedules. At present we are experimenting with the portion of the TK schedules which covers "computer engineering" and "computer hardware" and its applica-

tions. A portion of the schedule has been input and is being manipulated on a VAX-11/750 using a database management system called MISTRESS at the Faculty of Library and Information Science at the University of Toronto. Directories providing access to the schedules have been created using terms from the schedules and their indexes. At present concentration is on developing a system that works. Shortly we will be giving serious consideration to content and display.

We are also beginning to look at Phase II. Using the classified display of full bibliographic records from the University of Toronto microfiche catalogue, a limited number of records have been selected which will be downloaded onto an IBM PC through the Faculty library's account with UTLAS. The records will then be transferred to hard disk for manipulation on the VAX system. At the outset we will work with the MARC records in their basic format but as the design of the catalogue progress the requirements for display of records in a public catalogue will be addressed.

At present the project is staffed by the principal investigator and a programmer, with advice from a member of the University of Toronto Faculty who has a strong research background in the area of online retrieval. As the project gains momentum the research team will be enlarged, adding research assistants and possibly forming an advisory committee of experts. The Library of Congress is already aware of the proposed research and an opportunity for discussion with the appropriate LC staff will be sought as soon as there is a coherent package of informa-

tion to consider.

Funding

As the project grows, funding will be a major concern. For two years, thanks to the IFLA Section on Classification and Indexing, there have been funds to cover programming expenses. Just now, additional funding is being sought through the University of Toronto research programme. However, when, and if, the research culminates in the development of an online catalogue for full scale testing in libraries, a substantial research grant will be required and major funding agencies in Canada and the United States will be approached.

Conclusion

As with any research project, it is impossible to predict the exact direction which the research will ultimately take or the actions which the results will lead to. Only time will reveal this. In conclusion, I want to emphasize once again that the breadth of vision and a willingness to experiment are essential. This is not research to ensure a role for the Library of Congress Classification in interactive online retrieval. It is rather research to consider the feasibility and desirability of a role for LCC online, to demonstrate whether or not there is such a role, and if there is, what that role should be. It is also research to provide partial answers to questions about the role of classification per se in online systems. What are the essential features of classification systems for online use? Should we try to make the existing systems operate in a sophisticated manner online? Or should we take a new approach?

The search for answers to such questions will not be easy. There are many theoretical, technological, practical and economie factors to be considered. Whatever the outcome it is important to make the effort.

References

1. B.C. Vickery, "Classificatory Principles in Natural Language Indexing Systems," in Classification in the 1970's: A Second Look, edited by Arthur Maltby, 2nd ed. (London, Clive Bingley, 1976) pp. 119-141.

2. Jean Aitcheson, Alan Gomersall and Ralph Ireland, comps., Thesaurofacet: a Faceted Classification for Engineering and Related Subjects (Whatstone, Eng.: English Electric Co., 1969).

3. BSI Root Thesaurus, 2nd ed. (Milton Keynes, Eng.: British Standards Institution, 1985).

4. United States, National Library of Medicine, Medical Subject Heading: Tree Structures (Bethesda, Md.: The Library, 1970-4).

5. Malcolm Rigby, Automation and UDC, 1948-1980, 2nd ed. (The Hague: Fédération Internationale de Documentation (FID), 1981).

6. Karen Markey and Anh N. Demeyer, Dewey Decimal Classification Online Project: Evaluation of a Library Schedule and Index Integrated into the Subject Searching Capabilities of an Online Catalog (Dublin, OH, OCLC Online Computer Library Center, 1986).

7. At a seminar in January 1986 at OCLC, Inc. in Columbus, Ohio, to discuss the Markey research on the Dewey Decimcal Classification, the idea of authority control for classification was suggested.

8. Markey and Demeyer, Dewey Decimal Classification Online Project, p. xxxv.

9. John Phillip Immroth, Analysis of Vocabulary Control in Library of Congress Classification and Subject Headings (Littleton, Colo.: Libraries Unlimited, 1971).

161-CLAS-4-E

IFLA - 1986

Division of Bibliographic Control.

Section of Classification and Subject Cataloguing

NEW STATE STANDARD OF THE U S S R

"SYSTEMATIZATION OF DOCUMENTS. GENERAL REQUIREMENTS".

E.R.Sukiasjan,
Department of Systematic and Subject Catalogues. The V.I.Lenin State Library of the USSR

For internal use only:

To be brought to meeting no:

Remarks:

to be presented orally ☐

for distribution only ☒

Moscow - 1986

2668

E.R.Sukiasjan

NEW STATE STANDARD of the U S S R "SYSTEMATIZATION of DOCUMENTS. GENERAL REQUIREMENTS"

The systematic Catalogue revealing the contents of library collections is the main catalogue for all libraries in the Soviet Union So it is quite clear that great attention is paid to the quality of systematic catalogues, to systematization that reveal the contents of each publication and help to meet requirements of the contemporary classification systems. Now we have standardized the systematization terminology, we have been actively developing centralized forms of help to libraries, and first of all centralized cataloguing, we publish classification tables, modifications and supplements to them, we train personnel, we develop scientific work.

Maximum use of the information potential accumulated by libraries will contribute to solving great tasks put before the Soviet society by the "Main Directions of Economic and Social Development of the USSR for 1986-1990 and for the Period up to 2000" accepted by XXVII Congress of the CPSU. A considerable role in organizing and retrieving information is played by systematic catalogues.

The evidence of continuous attention to the questions of systematization is in approving the general requirements to systematization in a normative document at the level of the USSR State Standard that is compulsory to all libraries, scientific and technological information bodies, bibliographic institutions, editorial boards, and publishing houses that carry on systematization work. GOST 7.44-84 "Systematization of Documents. General

Requirements" is introduced in our country from January 1, 1985. When working out this Standard the compilers met some difficulties: the world practice of standardization has no analogues that could be used while working on this Standard. The object of standardization - systematization as a totality of processes - is very complex and difficult. Dozens of authors all over the world give in their aids rather various recommendations about the succession of processes and operations, limits of the systematiser's subjectivism, and, at last, about the essence of each operation. Difficulties were also caused by the fact that the requirements to systematization are rather specific. They depend on and should correspond to the tasks and aims of each organization, to the final results for the sake of which the systematization is being done.

Yet, studying of literature and especially of the very process of systematization at different organizations showed that the principal requirements determining the essence, contents, sequence of the systematization processes, in fact, have common character. The Standard determines such sequence. In principle it coincided with provisions proposed in the works of the distinguished scientist Sh.R.Ranganathan. The Standard determined the list of classification systems used in our country. Cutting down the number of employed classification systems, their unification permitted to considerably simplify the personnel training, to unify the catalogues structure, the bibliographic aids structure, to make the information stocks more available to users.

At the same time we are solving the tasks of providing Universal Availability of Publications and Universal Bibliographic Control because, as it is well known, the publications issued in

our country go to the collections of libraries all over the world.

I would like to draw your attention to these features of the Standard contents; they should be of interest for specialists of various countries of the world.

The USSR ghas a rich classification practice. In 1940-ties and 1950-ties and later many libraries used the same source, i.e. the Universal Decimal Classification tables, worked out their own variants of classification tables. Some of them differed from the international practice very little; others presented a radical remaking of the structure and terminology of the UDC.

In 1962 there was accepted the decision to introduce and accept the UDC as a unique classification system for all scientific and technological libraries and for the organs of scientific and technological libraries and for the organs of scientific and technological information; this decision clearly defined the limits: the UDC being introduced only for social and technical sciences. The working out of the Soviet Universal Classification System lasted for several decades. The work was completed by the end of -60-ties with creation of the Library -Bibliographic Classification (LBC).

The UDC and LBC are at the head of the list of classification systems the use of which in the USSR is regulated by the Standard. The UDC use limits are stated above. The sphere of the LBC distribution is much wider as there were worked out and issued several variants of the LBC tables:

- for research libraries (in 30 vol.),
- for research libraries; shortened version (in 6 vol.),
- for regional libraries (in 4 vol.),
- for public libraries (in 1 vol.),

- for children's and school libraries (in 1 vol.).

The LBC distribution and popularity were stipulated by working out of two ways of subdivisions its main classes - by the Russian alphabet letters (used in the research libraries version) and by Arabic numerals (used in the version for regional, public, children's , and school libraries). In the near years an enormous library network, approximately 300,000 will be transferred to LBC.

The third universal classification system mentioned in the Standard - is the "Rubricator of the State Automated System of Scientific and Technical Information" (GASNTI). The Rubricator was introduced into practice from January 1, 1981; The 3-rd edition of tables in two volumes was published at the end 1984 (Second Volume contains alphabetical and subject index). The Rubricator functions somehow differ from the UDC and LBC aims. Its main task is in coordinating the formation of information stocks at the organs of scientific and technical information with a view of information exchange, - including on complex problems, - from different stocks. Each information organ works out its own branch rubricators (subject headings) which are detalizations of the GASNTI Rubricator.

The GASNTI Rubricator has three division stages; each of them is marked by two-digit order identification, for example:

13. Culture

13.31. Librarianship

13.31.15. Organization and management in the field of librarianship.

The special subject heading provides development of these three stages, for example:

2672

13.31.15.63. Library workers personnel. Special education.

13.31.15.63.41. Library profession.

The GASNTI Rubricator is planned to be very widely introduced in the next years into the working practice of both libraries and information organizations.

The forth universal classification system regulated by the Standard is called the "Unified System of Classification of Literature for Publication in the USSR". Its classification designations are given in the publishing houses thematic plans, in book selling catalogues and bulletins, and directly on the books published in the Soviet Union. The publications of the USSR National Bibliography in their structure and arrangement fully-correspond to this classification approved in 1977. The designation is given in two variants one of which is designed for automatic processing:

44.3.4. 4403040000 Librarianship. Library science.

A shortened variant of this system tables was worked out in 1981; this variant is designed for book trade (arrangement of publications at book shops).

Two other systems (the Standard comprises 6 systems all in all) bear special character. The first is widely known to specialists in many countries, i.e. International Patent Classification (of Inventions). The second was recently developed in the USSR for systematization of stocks of normative documents (standards, technical specifications).

Regulation of the classification systems has great importance. Today in our country each book, with a small exception of some publications of low circulation, bears classification designations put by the publisher: the Unique system of litera-

ture classification for book-publishers in the USSR, and the LBC; and the UDC (beside the two systems mentioned) - for the scientific and technological literature. In this connection the use of other systems is considerably limited; the libraries take decisions about transferring to one of the systems proposed by the Standard.

Now, let's discuss the question of systematization as a complex totality of successively following processes. The Standard describes a recommended interconditional sequence.

This means that each stage, each process are finished with a result later used in the next process. Thus, an algorithm is created, i.e. activities order obligatory for every systematiser.

The systematization begins with the analysis of the document that consists of identifying and avaluating the document's main classification features at the close analysis of the documents. In the process of this analysis the systematiser employs various reference tools (encyclopaedias, dictionaries, reference-books, atlases); when necessary he/she applies to expertise consultations either on the document language or on the corresponding field of knowledge, subject, question.

The first process finishes with a preliminary classification decision - the systematiser formulates his/her decision in a free wording from. We proposed a typical programme of analysing each publication. Of course, it is difficult to formalize fully this complex intellectual process. But still it is possible to point out the main tsaks. We think that the systematiser should clear out the subject, main theme, the analysed aspect, field of knowledge, sphere of application, the object usage, form, the aim and the reader's need in the document.

The first place belongs to the main classification sign. Then the systematiser transforms the preliminary classification decision into the complete index showing at which catalogue sections the document will be reflected. It is necessary to find the corresponding designators at the classification tables and to combine them in a certain way. The specialists know that just this work stage may cause the most serious mistakes. The Standard recommends to use classification formulae, model (ready) classification solutions, to aplly to the methodological aids including such important know-how accumulator as is the systematic catalogue. The process is considered completed when the classification decision is ready and given in the artificial language of classification symbols.

Earlier this meant the end of systematization. But when working on our Stabdard the authors came to the conclusion that the systematic catalogue of today, i.e. at the end of XX century 80-ties could not and would not be presented with the systematic part only. The alphabetic-subject index is an obligatory part. Yet the index proves to be correct only when it is adequate and refects the catalogue contents. How to achieve it? There is only one way: to compile the index subject headings side, i.e. simultaneously with systematization of each publication. The studies made earlier at the V.I.Lenin State Library of the USSR showed that such approach to index compilation completely justifies itself from the theoretical point of view. We took for our practical work the chain method of compiling subject headings of the alphabetic-subject index suggested by Sh.R.Ranganathan. The chain method takes into consideration the

hierarchial structure of classification designators and gives a possibility to show successively in the index all information riches of the catalogue.

Now the State Sta dard regulates as obligatory the process of compiling the index subject headings right after reaching the classification decision. The Sta dard also regulates carrying of a control systematic card file (reverse to the index). This card file permits to introduce into the index all corrections and extensions to the classification tables as the control cards bear the subject headings put into the index to each tables subdivisions.

And finally, the Standard introduces editing of the classification decision including subject headings of the index. The editing process is now obligatory. There exists various techniques of this process envisaging quite different variant: with one, two, three, and more systematisers. And their qualifications levels and work experience are taken into consideration.

The final process of systematization consists in arrangement of the classification decision. We met many difficulties: registration of records on catalogue cards is quite different from putting data onto a bibliographic record seen on the display screen (if the library maintains an electronic catalogue). It was necessary to find such from that would meet and satisfy the requirements of all and everybody. The Standard is very clear in saying that registration is performed according to the rules accepted at a given organization. Such wording permitted, for example, to provide unique requirements for the

whole library network of the USSR Ministry of Culture, to eliminate the lack of coordination in registration of cards at libraries. The Standard can be accepted by those organizations that perform systematization under the conditions od operational automated retrieval systems.

The approval of the new State Standard forced us naturally to revise the norms for the library work processes. These no are already approved; they envisage both compiling of the alphabetic-subject index, and editing of the classification decision. It was also necessary to introduce some changes into the personnel training programmes. The Standard was studied at training courses, seminars, at all forms of library workers qualifications advance training.

We analyse with great attention the practice of the Standard use in our country. Unfortunately, we have to state the fact that little attention was paid in the world literature to the questions of systematization techniques, organization of library processes (we mean the contents processing of documets). And we are extremely interested in exchanging know-how; we are ready to cooperate in this field with foreign libraries.

Fonds 895/7

2677

IFLA GENERAL CONFERENCE, TOKYO 1986
Division: Bibliographic control
Section: Classification and Indexing

1984

194-CLAS-S-E

UDC : BS 1000 International Medium Edition in book and machine readable form

by

Tor Henriksen
Rektor
Norwegian School of Library and Information Science
Oslo, Norway

For internal use only:
To be brought to meeting no:
141
Remarks:
to be presented orally [x]
for distribution only [ ]

5169

UDC : BS 1000 International Medium Edition
in book and machine readable form

Last year, in 1985, the classified part of the publication cited in this paper's title, appeared also in English. This event constitutes an important progress in the FID programme for a new International Medium Edition, which up to now only had an updated version in German. The present edition replaces the former English abridged edition.

The publication of BS 1000 M confirms three main trends in classification and indexing.

1. Towards more machine readable tools

2. The emphasis on the Medium edition confirms the trend towards transfer of detailed subject description from classification symbols to verbal indexing.

3. The dropping of the abridged edition confirms that libraries small enough for a classification scheme of that size, do not need the sophistication of UDC. UDC is primarely for libraries where its specificity is required by the size and depth of the collections.

A major weakness with BS 1000 M is that updating has only been made up to 1977 - in order to keep the various editions at the same level. Exceptions are however, made for UK administrative divisions and some unofficial symbols of special relevance to the English language edition users.

One can understand such a decision - we do after all have "Extensions and corrections" if we want to have a more up-to-date version. But what about the French edition? Will we witness the

publication of a medium international edition in this language in the early 90-ties - but only updated to 1977?

However, the BS 1000 M will become a useful tool for a great number of libraries, in many countries, as soon as the forthcoming index is published. Even very large collection libraries should be able to base their classification practice on the medium edition - supplemented by the "Extension and Corrections 1977-" and perhaps by the full edition in some areas of high specialization.

As a machine readable edition, the BS 1000 M is available at the same rate as the printed version, on tape or disk according to the precise requirements of each library. This offer from the British Standards Institution, will for many libraries and other documentary institutions, constitute the starting point of a new era in classification and indexing, as it will now be possible to integrate the classification scheme and the retrieval system.

If these developments are to result in a more efficient library service, some requirements have to be fulfilled:

a) The producer of the classification scheme must develop all relevant tools in machine readable form - e.g. "Extensions and corrections" and the full editions.

b) The individual library must acquire electronic data processing equipment according to the requirements of their collections and services. UDC users will probably need hardware ranging from supermicros to mainframes.

c) In order to obtain an improved level of library service, by means of automation of the classification, indexing and retrieval tools, it is not enough to transfer our traditional methods from card or book form to microform or machine readable form. To exploit the potential of improved methods,

research has to be conducted. Most libraries have not yet succeeded in anything but qualitative improvements by automation. It should be an important task for the Standing Committee on Classification and Indexing to initiate, stimulate or even undertake research and development work in this area.

In the future, libraries will probably not buy classification tools. It is more likely that they will hire the tools as one does with computer software already. That means that a library having subscribed to the services of a classification tool producer, will automatically receive all extensions and corrections, phoenix schedules or new editions.

The introductory part of the BS 1000 M is quite close to former versions, but there are some novelties:

a) A new distinction is made between independent and dependent auxiliary tables. This means that the independent auxiliaries (language, form, place, race and time) can be used alone whenever appropriate. the dependant auxiliaries (point of view, materials and persons) should only be affixed to main UDC symbols. It is, however, important to note that BS presents this as an **official** distinction. I read this as an invitation to use dependent auxiliaries as well whenever appropriate. It could be a practical solution for classifying comprehensive works on e.g. categories of persons or materials. I think FID should reconsider the utility of distinguishing between independent and dependent auxiliaries. Stick to the old distinction between special and common auxiliaries - and keep the special ones dependent and let all the common ones be independent.

b) Both filing order and citation order is unchanged, which means that it is still impossible to obtain a logical order of the classified material from general to special. Thus it is

still recommended to file a subject related by a colon to another subject before a more general work on the subject subdivided by form only. A subject subdivided by place is still filed before the same subject subdivided by time.

The validity of the principle of inversion is emphazised - e.g. the inverse relationship between citation and filing order. At the other hand, users are invited to vary the citation order, when necessary for better collocation, but without altering the filing order. "The filing order is prescribed, but the citation order is optional".

I think FID should also reconsider its recommendations for filing and citation order. Both library cooperation and the new technology require simple and clear-cut rules without too many exceptions. Too many options inhibit cooperation between libraries and will not be to the benefit of our patrons.

c) Finally, it should be noted that the possibility of replacing the colon by a more expansive sign 000. to deviate a viewpoint relationship between two main classes is to be formed under the common auxiliary point of view. Further, the possibility of replacing the colon by an apostrophe, to reduce the length of the symbols in certain classes, is dealt with under special auxiliaries. In my opinion both 000. and the apostrophe should be dealt with under "relation, subgroup, orderfixing". They have little to do with auxiliaries - whether special or general.

Conclusion

UDC has still progress to make, but is moving in the right direction.

- Emphasis on medium editions
- More compatible with the theory of classification
- Machine readable editions

UDC originally developed from the DDC, but over the years there has not been much cooperation between the two producers of classification tools. But a press release from May 1986, reports that they have had a series of discussion meetings during 1985 and that they have agreed to continue. This is really good news.